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10/576,544

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EXAMINER

KNABLE, GEOFFREY L

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|---------------------------------------|---|--|
| Office Action Summary | Application No. 10/576,544 | Applicant(s) LO PRESTI ET AL. | |
| | Examiner Geoffrey L. Knable | Art Unit 1791 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-96 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 49-96 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/20/06</u> . | 6) <input type="checkbox"/> Other: ____. |

1. Claims 52-53 and 63-64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In describing how the wave height and wave pitch are calculated, the specification describes (with reference to fig. 2) that pitch P is a distance in the axial direction and height H is a projection on a plane parallel to the equatorial plane of the bladder. These dimensions therefore are entirely dependent upon the orientation of the bladder relative to the axial and equatorial directions. The fig. 2 depiction of the orientation of the bladder (this being described as a cross-section of the bladder of fig. 1) however raises significant confusion as it depicts a bladder orientation that is significantly angled to the axial and radial directions whereas the only possible bladder orientation in fig. 1 that could lead to such a depiction would be that of the bladder in its inflated condition (dashed line of turn-up bladder in fig. 1). However, if these measurements are for the inflated/expanded bladder, then they would seem to be almost meaningless as the bladder can adopt a wide variety of expanded orientations dependent upon the degree of inflation, the tire shape, etc. The artisan is therefore not given sufficient information to determine the intended state of the bladder when these measurements are to be taken. As such, this represents subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it

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pertains, or with which it is most nearly connected, to make and/or use the invention without an undue burden of speculation.

2. Claims 49-61, 63, 64, 86 and 96 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 49 defines that the second layer is “radially external to said first layer” but the shape of the bladder has not been sufficiently specified such that a radial direction can be defined. Note that a bladder can assume a variety of orientations such that in one orientation the bladder could read on the claimed requirement but in another, it would not. Note for example in fig. 1, the turn-up bladder *when installed on the drum and deflated*, would have the layer “9” radially outward. However, if inflated (especially without a tire to push against), the layer “9” would likely no longer be radially outside the first layer. Note also that the present claim language would not appear to read on the belt edge bladder (upper bladder) in fig. 1 since the layer “9” is radially inside the layer “8” in this bladder as depicted. Clarification is therefore required. An analogous ambiguity is presented by the reference to the radial direction in claims 58 and 59.

With respect to claim 52, 53, 63 and 64, for essentially the same reasons as detailed in the 35 USC 112, first paragraph rejection above, the scope of the wave height and wave pitch cannot be readily ascertained as it depends upon the bladder orientation, these claims being therefore indefinite.

The last line of claim 55 is missing some wording such as “between” after “of”.

In claim 86, line 2, no antecedent has been established for “said mould”.

The seemingly redundant language at lines 3-9 of claim 96 raises an ambiguity as these requirements are already present in claim 91.

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 49, 50, 54, 58, 60 and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Weimar et al. (US 5,250,142).

Weimar et al. discloses an expandable turn-up bladder for tire manufacturing including first and second elastomer layers (e.g. 10 and 12 in fig. 3). Further, reading

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the fabric layer "14" as part of one of the two layers, the interface profile between the two layers would be undulated to thereby define mechanical engagement elements (e.g. fig. 3). A bladder as required by claim 49 is therefore anticipated. As to claim 50, the bladder is toroidal (e.g. fig. 1). As to claim 54, the interface would be waved by virtue of the fabric and the waves would extend 90 degrees to the normal to the median extension, it therefore being "inclined" (at 90 degrees) as claimed. As to claim 58, note for example the additional layer in fig. 4. As to claims 60-61, the outer layer covers a portion of the bladder as indicated by the arrow "12" in fig. 1, this being "close" to a circumferential edge of the bladder.

7. Claims 51-53 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Weimar et al. (US 5,250,142).

As to claim 51, being a turn-up bladder, a circumferential anchoring tailpiece would have been seen as necessary and therefore implicit or certainly obvious (such being typical for turn-up bladders) so as to be able to suitably secure the bladder to the tire drum. As to claims 52-53, given that the cords define the undulated interface, the size/spacing guidance provided by especially fig. 3 would have suggested or rendered obvious a height/pitch consistent with these claims.

8. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weimar et al. (US 5,250,142).

Weimar discloses plural layers as already noted, it being considered obvious to provide any desired number of layers, including plural outer layers, to yield the desired performance characteristics.

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9. Claims 62-65 and 83-86 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weimar et al. (US 5,250,142) as applied above, and further in view of at least one of [Vinton (US 4,240,863) and JP 57-87939].

Weimar et al. discloses a bladder structure having an undulated profile for the reasons noted above but does not disclose forming the bladder layers by wound coils around a support. Vinton (esp. col. 1, lines 28-30) and JP '939 (figs. and abstracts) evidence that it is known to be suitable and effective to form bladders using ribbon/strip winding processes where a strip is wound in coils around a forming support - the advantages in terms of avoiding the need for a joint in the bladder material would have been readily apparent. In view of these teachings, it would have been obvious to form each of the layers of the bladder of Weimar et al. by winding an elongated strip in coils as claimed. A process as required by claim 62 would therefore have been obvious. As to claims 63-65, note the previous discussion with respect to claims 52-54. As to claim 83, the winding suggested by the secondary references includes rotation of the support and relative transverse displacements. As to claim 84, note again the additional layer in fig. 4 of Weimar et al. As to claims 85-86, Weimar discloses plural layers as already noted, it being considered obvious to provide any desired number of layers, including plural outer layers, to yield the desired performance characteristics.

10. Claims 69-71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weimar et al. (US 5,250,142) taken in view of at least one of [Vinton (US 4,240,863) and JP 57-87939] as applied above, and further in view of 2005/0061412 to Noto et al.

As to claims 69-71, the particular cross-section of the wound strip would have been readily and routinely selected by the ordinary artisan, it being known and conventional in this art to use a flattened trapezoidal or triangular shaped strip to allow strip overlap, while maintaining uniform layer thickness, to form a wound barrier liner layer (e.g. paragraphs [0017]-[0018], [0035]-[0037] of Noto et al.). Winding a flattened trapezoidal or triangular strip would therefore have been obvious for only the expected and predictable results.

11. Claim 79 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weimar et al. (US 5,250,142) in view of at least one of [Vinton (US 4,240,863) and JP 57-87939] as applied to claim 62 above, and further in view of Sergel et al. (US 2001/0035255).

In the art of strip winding different rubber strips to form two layers, it is known that either sequential or simultaneous winding processes are obvious alternatives - Sergel et al. (esp. paragraph [0010]) is exemplary.

12. Claims 87, 88, 90-92 and 94-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mallory et al. (US 3,833,445) taken in view of Weimar et al. (US 5,250,142).

Mallory et al. is exemplary of conventional tire building including forming a carcass on a drum, turning the carcass ends around the beads using an expandable bladder and shaping the carcass to toroidal shape to apply the belt and tread but does not detail the bladder. Weimar et al. discloses a desirable turn-up bladder configuration that reduces sticking, it being obvious to use such a bladder configuration for the turn-up bladder in Mallory et al. to minimize sticking. An undulated profile would be present

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for the same reasons already detailed with respect to claim 49. A process and corresponding apparatus as required by claims 87 and 91 would therefore have been obvious. As to claims 88 and 92, Mallory et al. applies the sidewalls using the bladders after the toroidal shaping (e.g. figs. 15-16). As to claims 90 and 96, the turn-up bladders would be toroidal. As to claims 94-95, the Mallory et al. drum is used for both building and shaping.

13. Claims 49, 50, 52, 60 and 61 are rejected under 35 U.S.C. 102(b) as being anticipated by Iknayan (US 2,198,008).

Iknayan discloses a bladder (inner tube) formed from two different rubber layers (3/4) that will have an undulated interface profile by virtue of the rubber of the one layer entering the perforations in the other layer. Such an inner tube is capable of use in manufacturing a tire. A toroidal bladder as required by claims 49 and 50 is therefore anticipated. As to claim 52, the dimensions suggested at page 2, col. 2, lines 1-20 would suggest a height/pitch consistent with the broad range claimed. As to claims 60-61, the outer layer extends over at least a portion of the bladder and is close to for example an inner circumferential edge.

14. Claims 49, 50 and 60 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 3-202326 to Masuda.

JP '326 discloses a tire bladder having a specific uneven rough surface to which is applied a silicone rubber layer. The uneven surface would have been expected to provide an undulated mechanically engaged surface as claimed.

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15. Claims 49, 50, 52-54, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burdette (US 1,603,312) taken in view of at least one of [O'neil (US 2,592,724) and Prince (US 1,492,218)].

Burdette discloses a bladder (inner tube) formed from two rubber layers ("laminated stock" 20) that has an undulated interface profile (figs. 2, 4). Such an inner tube is capable of use in manufacturing a tire. A toroidal bladder as required by claims 49 and 50 is therefore suggested except Burdette does not explicitly describe that the laminated bladder material is formed from two different rubbers. Such would however been obvious in view of O'neil and Prince which provide evidence that the ordinary artisan understands that an inner tube is desirably formed as a laminated structure from two different rubber layers. As to claims 52-53, the guidance provided by fig. 2 would have rendered obvious relative dimensions for the height/pitch consistent with the ranges claimed. As to claim 54, the waves extend in a direction inclined at 90 degrees to the normal to the extension of the undulated profile. As to claims 60-61, the outer layer extends over at least a portion of the bladder and is close to for example an outer or inner circumferential edge.

16. Claims 49-57, 60 and 61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phelps et al. (US 6,363,989) taken in view of at least one of [Schallmeier et al. (US 4,698,245), Andronoco et al. (US 6,458,446), EP 160857 and DE 1479111].

Phelps et al. is exemplary of a conventional turn-up bladder for tire manufacture that is formed from two elastomer layers (30, 40) bonded to one another. An undulated bonding interface is not however suggested.

Each of Schallmeier et al., Andronoco et al., EP '857 and DE '111 are directed to improving the bonding between adjacent layers and suggest desirably providing an undulated bonding interface to improve the adhesion between the layers. Given that it is a well known expedient to provide an undulated bonding interface between two layers that are to be bonded to enhance bonding, it would have been obvious to provide an undulated bonding interface between the two bladder layers of Phelps et al. with an expectation of an improved bond. Such would have been particularly obvious given that the outer layer in Phelps et al. is an anti-tack rubber and therefore would have been expected to have some reduced ability to bond to other rubber layers. A bladder as required by claim 49 would therefore have been obvious. As to claims 50 and 51, the bladder is toroidal and includes anchoring edges (e.g. fig. 1). As to claims 52-53, the particular wave heights/pitches would have been routinely optimized, the guidance provided by the secondary references further suggesting a height/pitch consistent with the relatively broadly claimed range. As to claim 54, even if the undulated profile is aligned with the layers, it would have a 90 degree inclined extension relative to the normal. As to claims 55-57, the square or undercut wave shapes suggested by the secondary references would have bisecting lines at the vertexes oriented at an angle to the normal that is 45 degrees or greater (i.e. it would be 45 degrees for a simply square wave or greater than 45 degrees if the wave vertex is undercut).

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17. Claims 87, 88, 90-92 and 94-96 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phelps et al. (US 6,363,989) taken in view of at least one of [Schallmeier et al. (US 4,698,245), Andronoco et al. (US 6,458,446), EP 160857 and DE 1479111] as applied above, and further in view of Mallory et al. (US 3,833,445).

Phelps et al. discloses a tire building process/apparatus including a turnup bladder that effects turn-up of the carcass around the beads but does not provide additional detail of the building process/apparatus including toroidal shaping and applying the belt/tread. Such additional steps are however well known, typical and obvious in this art - Mallory et al. (described in detail earlier in this office action) is exemplary.

18. Claims 89 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over [Mallory et al. (US 3,833,445) or taken in view of Weimar et al. (US 5,250,142)] or [Phelps et al. (US 6,363,989) taken in view of at least one of [Schallmeier et al. (US 4,698,245), Andronoco et al. (US 6,458,446), EP 160857 and DE 1479111] and further in view of Mallory et al. (US 3,833,445)] as applied above, and further in view of JP 2003-71948.

Mallory et al. suggests that the belt/tread be stitched to the carcass (e.g. col. 2, lines 40-43) but does not detail this operation and thus does not teach use of a bladder. Use of a bladder to help press the edges of the belt/tread would however have been obvious in view of JP '948 which evidences such to be a conventional way to uniformly effect such the bonding.

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

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unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

20. Claims 49-86 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 36-66 of copending Application No. 10/577,303. Although the conflicting claims are not identical, they are not patentably distinct from each other because the presently claimed use of the bladder "for tire manufacturing apparatuses" is sufficiently generic/broad to encompass a bladder designed for use with tire vulcanizing apparatus - the claims are otherwise essentially the same.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on 571-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey L. Knable/
Primary Examiner, Art Unit 1791

G. Knable
May 4, 2009